

be answered. As soon as such patients could do with a trustworthy assistant, that we or rather our registry was responsible for, expenses of illness would be reduced.

Many of our deserving sick with moderate means cannot afford a graduate nurse more than one or two weeks, and if a nurse when she left could direct a second or third class nurse to take her place, knowing that her patient would continue to do well, it would be a great relief to a conscientious nurse.

The Nurse's Helper we would have to teach some. This could be done in somewhat the same way as a head nurse teaches a pupil the simple rudiments of nursing during the first three or four months in the training school. I would not advocate that a helper should be left to care for a patient in our absence, unless she should prove especially trustworthy.

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### SOME PHASES OF SCHOOL NURSING \*

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THE New York Board of Health first considered the extension of the already existing system of medical inspection of public schools, by the establishment of a corps of nurses, in October, 1902.

After a month's experimental work made by one nurse as a demonstration, the results were considered so satisfactory that twelve nurses were appointed, and following the report of this month's work with twelve nurses in forty-eight schools (four schools for each nurse), the Board of Health considered that the work had passed the experimental stage and had fully demonstrated its practical value as a supplement to the medical inspectors. It was seen that the work of the nurses connected the efforts of the Department of Health with the homes of the children, this supplying the link needed to complete the chain of medical inspection.

As will be seen by studying the early reports of medical inspection, the objective point in the system was *exclusion*. The child was excluded from school, the object being to protect the children *in* school. It is true a number of details looking toward the care of the individual child were in practice. The Department of Health, while not prescribing treatment, gave an exclusion card stating the diagnosis. It was supposed in this

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\* Read at the eleventh annual convention of the Nurses' Associated Alumnae, May, 1908.

way the necessary medical treatment would be secured by the parents. However, from the standpoint of the Department of Education, serious difficulties were soon apparent, resulting from the policy of exclusion. In many cases the excluded children, not fully understanding the instructions, played on the street with their companions as they came out of school and lost or destroyed the cards. In other instances the cards were taken home, but the parents, often ignorant of the English language, did not understand what the child tried to explain and the Latin names were quite uncomprehended. The result was that the majority of such cases received no treatment, especially when the complaints were of an inconspicuous nature and were not considered serious by the parents, such as skin diseases, eye and scalp troubles. In many instances the cards were never looked at, but remained in their sealed envelopes while the child played on the street. Under this system, the number excluded was 10,567 for the month of September, 1902. During the same month in 1903, with the nurses in the schools, only 1101 were excluded. From these numbers, it can be estimated what a serious loss of school time was suffered by the very children who could least afford to lose their schooling, as they belong, almost all, to that class of wage earners who are legally allowed to work at the age of fourteen.

The Department of Health fully realized this aspect of the case and, sympathizing with the Department of Education in the problem of the children's school life, concluded that by using the practical services of the nurse, under a thorough system, the old policy of exclusion might be safely reversed in a large majority of cases and the number of children excluded be reduced very materially. The official figures for the quarter ending December 3, 1903, show that four hundred would be the actual number of exclusions as against 24,538 under the old system. With this purpose in view, keeping in mind not only the health but the education of the child, the former policy of ordering no treatment was also modified and the nurse was instructed by the orders of the Department of Health to give specified local treatment in all cases, which, with care and daily supervision, might safely remain in school. Thus, to illustrate, a case of ringworm which was formerly sent out of school is now retained, being considered innocuous under the care prescribed by the department. At the request of the Board of Health, the Board of Estimate and Apportionment appropriated \$30,000 for 1903, to extend the nursing service and place it on a more definite basis. This provided a staff of twenty-seven nurses at a salary of nine hundred dollars each per year, under one supervising nurse, the nurses providing their own board, lodging and current expenses. Eighty-seven schools

were added, making a total of one hundred and twenty-nine (one hundred and twenty-five public and four parochial schools) with an attendance of 219,239 pupils. Schools were selected according to the number of exclusions under the old system. New ones were added as requests came from the medical inspectors and principals of schools, or as the staff of nurses was increased.

The staff was organized and the duties of nurses decided upon as follows: The nurse receives from the supervising nurse the following information. The schools in which she is to perform her duties and the hours for visiting each school. On entering the school for the first time, she reports to the principal and obtains a place in which to work and the method for receiving the children designated by the medical inspector.

The doctor is interviewed and the details obtained from his cards. These cards give the following information: Name of child, disease, date when ordered under treatment, date of exclusion, date of readmission. The nurse keeps a duplicate set of cards for her own use. A code system was devised by which numbers could be used instead of the name of the disease, and reads as follows:

#### CODE.

- |                        |                            |
|------------------------|----------------------------|
| 1. Diphtheria.         | 12. Varicella.             |
| 2. Pediculosis.        | 13. Pertussis.             |
| 3. Tonsillitis.        | 14. Mumps.                 |
| 4. Pediculosis.        | 15. Zero.                  |
| 5. Ac. Conjunctivitis. | 16. Scabies.               |
| 6. Pediculosis.        | 17. Ringworm.              |
| 7. Trachoma.           | 18. Impetigo.              |
| 8. Pediculosis.        | 19. Favus.                 |
| 9. Zero.               | 20. Molluscum Contagiosum. |
| 10. Scarlet Fever.     | 21. Ac. Coryza.            |
| 11. Measles.           |                            |

The zero numbers are given to children having no disease so that all may be treated in the same manner.

Cards are kept for each class, and while the nurse prepares the "dressing table," a monitor is sent for a limited number of children. While these are being treated, others are sent for, each child returning to classroom as soon as cared for, thus preventing delay and confusion.

The course of treatment is outlined by the Department of Health and is as follows:

*Pediculosis*.—Saturate head and hair with equal parts kerosene and sweet oil, next day wash with solution of potassium carbonate (one tea-

spoonful to one quart of water) followed by soap and water. To remove "nits" use hot vinegar.

*Favus, Ringworm of Scalp.*—Mild cases: Scrub with tincture green soap, epilate, cover with flexible collodion. Severe cases: Scrub with tincture green soap, epilate, paint with tincture iodine and cover with flexible collodion.

*Ringworm of Face and Body.*—Wash with tincture green soap and cover with flexible collodion.

*Scabies.*—Scrub with tincture green soap, apply sulphur ointment.

*Impetigo.*—Remove crusts with tincture green soap, apply white precipitate ointment (ammon. hydrarg.).

*Molluscum Contagiosum.*—Express contents, apply tincture iodine on cotton toothpick probe.

*Conjunctivitis.*—Irrigate with solution of boric acid.

The supplies used by the nurses are provided by the Department of Education, and are as follows:

1 screen.	Boracic acid powder.
1 cabinet.	Tr. green soap.
2 chairs (1 high).	Collodion
1 table.	Vaseline.
1 scrap basket.	White precipitate ointment.
12 towels.	2 basins (white granite).
Absorbent cotton.	1 glass jar (1 gallon).
Absorbent gauze.	1 ointment jar (glass).
Bandages.	Bichloride mercury tablets.

These are ordered on regular requisitions by the principals of the schools and forwarded to the Department of Education, each school receiving only what is necessary for its own particular use.

The supervising nurse has entire charge of the school nurses, and is responsible for the efficiency and character of the work performed by each nurse, in all boroughs of the city. It is her duty to make arrangements for beginning work in the schools and to see that the necessary supplies are provided by the Department of Education. She also regulates the proper amount of work for each nurse, making whatever changes and transfers are necessary, and inspects the work of each.

The supervising nurse receives the weekly written report of each nurse, which she examines and corrects, before making a general summary which is forwarded to the chief inspector. The nurses report to her once a week in person. Applications for the position of school nurse are made to the supervising nurse, who interviews each applicant and

obtains credentials which she investigates, and forwards result of investigations, with her recommendations to the Board of Health.

To facilitate the smooth running of the medical inspection, there was adopted what is known as the "card index" system, a detailed account of which is given in Dr. Darlington's paper on "Precautions Used by the New York City Department of Health to Prevent the Spread of Contagious Disease in the Schools of the City," from the *Medical News*, January 21, 1905.

A list of the names of children excluded by the medical inspector is left with the clerk in the school. This keeps the school supplied with accurate records of children absent on account of illness. Before leaving the school, the nurse obtains a copy of this list and subsequently visits each child in his home. This part of the work of the school nurses is by far the most important in its direct results, and most far reaching in its direct influence. In the first visits made by the nurses it was amply proven how often the benefits were defeated by the ignorance of the parents. The nurses found the unopened cards behind clocks and on the mantel shelves, they detected the unsanitary conditions which were propagating the very troubles the children were being excluded for:—the whole family using the same towel and other linen, where the child was excluded from school with contagious eye trouble; children not at school equally suffering with pediculosis capitis, the mothers not realizing that it was useless to keep the school child clean if all the others in the family were neglected. Cases were found where the child sent home from school with severe forms of scabies was helping to finish and carry the bundles of sweat shop clothing; bad conditions of drains and sewers, filthy conditions of yards, where delicate children played. Moreover, the nurses discovered many cases of contagious illness. One such illness was that where a nurse, on entering a room without a window, found what seemed to be a bundle of rags on a cot. Upon investigation, she found a man in the last stages of tuberculosis. With such conditions in the homes, it is obvious to all that the work done in the school only must fail to have any real preventive character. The care given to the children in the schools is the ameliorative—that given in the homes the preventive part of the whole.

The nurse's first duty is to explain why the child has been sent home and what is to be done. She instructs the mother and, where necessary, gives practical demonstration. She impresses on the parents the importance of having medical advice, and suggests calling the family physician. If too poor to pay a physician, the proper dispensary is indicated. Her opportunities for advising the family are manifold,

as are also those of reporting to the proper authorities unsanitary conditions and non-observances of the law. When the mother is overburdened with work, or where there are smaller children who cannot be left alone, the nurses make arrangements to have the children taken to the dispensary to ensure the treatment being given. As soon as evidence of treatment can be shown, the child is allowed to return to school, except in extreme cases. The latter are kept on a separate list, and are visited from time to time until able to return.

The experience of the time shows that this careful detail work amply justifies itself by its results.

Pediculosis has almost entirely disappeared where nurses are in attendance at schools.

Some parents at the onset were suspicious and defiant until shown the intentions of the Department of Health. One mother, for instance, was indignant when she learned from her son that "his eyes had to be taken out and scraped." The nurse on entering this home was greeted with a tirade of abuse but, after holding her ground, succeeded in making the explanation with the result that the mother not only consented to have the boy operated on, but invited the nurse to take tea. The general attitude of the poor, however, is that of appreciation as is shown by the following note:

"We are very much obliged to you for dealing so kindly with us, by not sending Sadie home. I am busy working in the store from early morning to late in the night. I will put this salve on her head every night till it is cured."

In 1904, the work was extended, and fifty-two schools were added. The staff of nurses was increased to thirty-three. The general plan of the work remained the same.

In 1905, the staff of nurses was increased to forty-four; one hundred and eighty-one public schools were given into their charge.

Nurses are also assigned to twenty parochial schools and three industrial schools which are under separate management. Parochial schools are supported by the Church, and industrial schools by Boards of Trustees, the Department of Education allowing fifteen dollars (\$15) per capita.

With the purpose of relieving the physicians in the schools of as much routine duty, and giving them as much time as possible for the physical examinations, the nurses were given charge of the routine inspection. This consists of a class to class examination which is done systematically and regularly. The children pass before the nurse, pulling down their eyelids as they pass, the condition of the hands being noted

at the same time; the throat and hair are examined also. The names of those requiring treatment are written on the cards and cared for as their conditions indicate. Before leaving the classroom the nurse gives a few words of general instruction to the children, in regard to regular bathing, hair combing, cleansing teeth and nails, and the proper clothing to wear. The cards are then left for the medical inspector, who fills in the diagnosis when making his morning inspection next day. The nurses, however, have complete charge of the pediculosis cases, and do not refer those to the doctor.

Each nurse is given a group of from two to five schools, or possibly more. The locality, condition of children, and the number in school are taken into consideration in making the selection.

The number of children which one nurse can properly examine each week and take care of is about three thousand. Where conditions are bad, the routine examination should be made every week. In other localities, every second week is sufficient. In 1907, through the efforts of the nurses in the schools, 1,435 pair of glasses were obtained for children with defective vision; 899 operations for adenoids and enlarged tonsils; 262 cases of contagious disease found not reported, and 275 cases referred to the relief societies.

The system as it is carried out at present may be summed up in a few words. A nurse assigned to two schools of 2,000 children each, makes the following routine:

She reports at the first school at 9 o'clock, and from that time until 11 o'clock makes as many classroom inspections as possible. Then she proceeds to the dressing room and from 11 to 12 o'clock treats all cases found during the inspection, and any others who come for daily dressings. Instructions are given to those whose condition does not demand treating. In the afternoon the same program is carried out. When school closes, at 3 P.M., the nurse makes the home visits, five being considered the average for each day. When this is finished, the report is made on a special card and forwarded to the supervising nurse.

Besides New York, several cities have nurses. Boston has twenty-nine nurses; Philadelphia, six; Baltimore, five; and Grand Rapids, five.

Your own beautiful west is not behind, except in numbers, for Los Angeles has three school nurses; Seattle, two; and many other cities are experimenting with a view to making this service part of the medical inspection. The principals tell us that the condition in the school is one hundred per cent. better, and that the attendance has increased seventy-five per cent. What better demonstration can be given of the

importance of keeping the children in a good physical condition, to insure a proper frame of mind to receive the knowledge so freely imparted in the schools?

Since the foregoing was written medical inspection has made a rapid stride in New York City.

An experiment was made during the last six weeks of the school term just closed, to show what results could be obtained by the concentrated efforts of one doctor and one nurse assigned to a single school. The doctor made a thorough physical examination of fifteen children each day, recording the defects found, on cards arranged for the purpose, and turned them over to the nurse.

The nurse, in the meantime, made a classroom inspection and treated those who required slight care and who had seen the doctor for diagnosis. The time required for this was about one and one-half hours, after which the nurse was free to investigate the cases given to her that day by the doctor. The rest of the day was spent in interviewing the parents of the children with physical defects and obtaining their promise to have the defect remedied. The parents who could come to the school to see the nurse did so, as many as eight or ten fathers and mothers coming at one time and waiting to find out just what his or her child required. Many of them said they would take the child at once and get treatment, or would ask the nurse to do so, giving reasons for their inability to attend to it themselves. Written requests were required from parents before the nurse took any child to a dispensary for treatment.

The principal defects met with were enlarged tonsils, adenoids, defective vision, bad teeth and anæmia.

Three schools were selected and in each five hundred children were examined. Over seventy-five per cent. were found to be below the normal condition. Nearly all were gotten under treatment; some parents asked to be allowed to wait until vacation so that the child would not lose classes. One child was found in need of operation for enlarged tonsils and adenoids; required glasses for defective vision; had several teeth to be filled or extracted; and had anæmia and weak lungs. One visit does not always mean good results. Sometimes as many as five visits have to be made before parents realize the importance of having medical care.

An interesting feature is the lack of dispensary accommodation. One nurse found that she could not get treatment for all the children she took, though she was making use of four different dispensaries. Each said she was bringing too many and the regular patients were being excluded.

The experiment has proved to be of such tremendous importance that it is hoped to have a large enough staff to carry it on when school opens in September.

I hope to see school dispensaries established where children may be sent directly from school. The hours should be arranged so that there will be no loss of school time for the children and where our own physicians and nurses will be in attendance. Every one then connected with the work would have the same interest and the responsibility could not be shifted from one division to another.

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## THE NURSE'S MANAGEMENT OF SHOCK AND HEMORRHAGE

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THERE is probably no emergency in which presence of mind on the part of the nurse is so necessary as in a case of hemorrhage, which is usually accompanied by a greater or less degree of shock.

The experienced, watchful nurse will quickly recognize the symptoms of shock and hemorrhage, and will put forth every effort to do all in her power in behalf of the patient, until medical aid arrives.

The nurse must work quickly and quietly, dismiss every one from the room who cannot be of intelligent assistance, and she should in no way impart to the patient the serious nature of his or her condition.

Post-operative hemorrhage is frequently complicated by shock, and may be either internal or external. If internal, it can be recognized only by the patient's general condition. The principal symptoms are: restlessness, rapid weak pulse, sighing respirations, anxious expression, cold, moist skin, thirst, longing for fresh air, falling temperature, and increasing pallor. In extreme cases there are ringing in the ears, inability to articulate, and if bleeding cannot *then* be controlled, the patient passes into a state of syncope, and death may ensue in less than five minutes.

In all cases of external hemorrhage the most important matter is to control the hemorrhage itself; this can usually be accomplished by position and direct pressure, which can be maintained until the arrival of surgical aid.

If hemorrhage is intra-abdominal, elevate the foot of the bed, thus bringing more blood to the vital organs. The body temperature should be maintained by the application of external heat. This may be effected by placing heated bricks, flat irons or plates, wrapped in old pieces of